Amendments to the Claims:

Please cancel claims 8-10 and 23, add new claims 34-38, and amend claim 1 as follows.

1. (Currently Amended) A method for stably transferring DNA into multi-potential hematopoietic stem cells in the G0 phase of the cell cycle, which comprises transducing said multi-potential hematopoietic stem cells with an adeno-associated virus vector that contains said DNA, wherein the transferred DNA remains integrated into the genome of the multi-potential hematopoietic stem cells for at least 4 weeks, wherein the multi-potential hematopoietic stem cells are maintained in the presence of cytokines IL-3, IL-6 and stem cell factor, and wherein the multipotential hematopoietic stem cells are maintained in medium containing no greater than about 15 ng/ml IL-3, no greater than about 15 ng/ml IL-6 and no greater than about 1 ng/ml stem cell factor. ~~levels of said cytokines are no greater than about 15 ng/ml IL-3, 15 ng/ml IL-6 and 1.5 ng/ml stem cell factor.~~

2. (Previously Presented) A method according to claim 1, wherein the transduced multi-potential hematopoietic stem cells are maintained under conditions such that at least about 92 to 99% of the cells in the G0 phase remain in the G0 phase for at least about two days.

3. (Original) A method according to claim 2, wherein the conditions under which the transduced multi-potential

hematopoietic stem cells are maintained include a transduction time of about 2 hours to about 48 hours.

4. (Original) A method according to claim 2, wherein the conditions under which the transduced multi-potential hematopoietic stem cells are maintained include a transduction time of about 2 hours to about 24 hours.

5. (Original) A method according to claim 2, wherein the conditions under which the transduced multi-potential hematopoietic stem cells are maintained include a transduction time of about 18 hours to about 24 hours.

6-12. (Canceled).

13. (Previously Presented) A method according to claim 1, wherein the transferred gene remains integrated into the genome of the multi-potential hematopoietic stem cells for at least 8 weeks.

14. (Original) A method according to claim 1, wherein the multi-potential hematopoietic stem cells are $CD34^{+++}CD38^{-}$ cells.

15. (Original) A method according to claim 1, wherein the adeno-associated virus vector contains said DNA within the adeno-associated virus inverted terminal repeats, and wherein the adeno-associated virus vector is encapsidated.

16. (Canceled).

17. (Original) A method according to claim 15, wherein the adeno-associated virus vector has a wild-type polyadenylation region.

18. (Original) A method according to claim 15, wherein the adeno-associated virus vector has a heterologous polyadenylation region.

19-21. (Canceled).

22. (Original) A method according to claim 1, wherein the DNA is selected from a gene, a gene fragment, an antisense DNA, a marker gene, a reporter gene and a recombinant DNA.

23-33. (Canceled).

34. (New) A method of claim 1 wherein said multipotential hematopoietic stem cells are maintained in medium containing no greater than about 1 ng/ml stem cell factor, no greater than about 15 ng/ml IL-3 and no greater than about 15 ng/ml IL-6.

35. (New) A method of claim 1 wherein said multipotential hematopoietic stem cells are maintained in medium containing about 1 ng/ml stem cell factor, no greater than about 15 ng/ml IL-3 and no greater than about 15 ng/ml IL-6.

36. (New) A method of claim 1 wherein said multipotential hematopoietic stem cells are maintained in medium containing about 1-15 ng/ml IL-3, about 1-15 ng/ml IL-6 and about 1 ng/ml stem cell factor.

37. (New) A method of claim 1 wherein said multipotential hematopoietic stem cells are maintained in medium containing cytokines consisting essentially of about 1-15 ng/ml IL-3, about 1-15 ng/ml IL-6 and about 1 ng/ml stem cell factor.

38. (New) A method of claim 1 wherein said multipotential hematopoietic stem cells are maintained in medium containing about 10 ng/ml IL-3, about 10 ng/ml IL-6 and about 1 ng/ml stem cell factor.